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SUBJECT: Memo: Sub: Hong Kong Trip report for 22-28 Oct. and 3-9 Oct. 82

cc: C/OPS

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## Travel - Hong Kong

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FORM 3970  
2-77

**FBI'S REGISTRY ROUTING SLIP**

(13-40)

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FOREIGN BROADCAST INFORMATION SERVICE  
UNITED STATES FORCES, JAPAN  
OKINAWA BUREAU  
APO SAN FRANCISCO 96239

MOK-2018  
19 February 1982

MEMORANDUM FOR: ✓ Chief, Engineering Division  
Chief, Okinawa Bureau  
Chief, Hong Kong Bureau

FROM:

Far East Regional Engineer

STAT

SUBJECT:

Hong Kong Trip Report for 22-28 Oct and  
3-9 Dec 1981

I. INTRODUCTION

This memorandum is a report on the engineering activities of the Hong Kong Bureau. The purpose of this TDY was to become knowledgeable in the Bureau's technical operations and projected requirements.

II. ENGINEERING ACTIVITIES

A. Facilities

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2. Receiver Site

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c. The Bureau has about 100 square feet of floor space in the C&W operations building for the equipment racks. There are 4 racks with space available for one more (at no additional cost) and a small work table.

d. All areas of the receiver site are maintained staisfactorily by C&W.

e. An inspection of the antenna field showed that antenna maintenance is completed in a professional manner.

3. Bureau

[Redacted]

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b. The technicians' work and desk area is quite small now that the Bureau has 2 technicians.

B. Personnel (Technical)

1. The Bureau's technical staff consists of two indigenous technicians. One is an experienced technician and the other is a new hire.

2. The Chief, Technician, [Redacted] is responsible for all the Bureau's engineering activities including supervision, guidance and training of the new hire, engineering, logistics and commercial liaison with contractors and vendors.

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3. The technical staff is well qualified in their maintenance capabilities and procedures required to support the Bureau. The only difficulties encountered are the ever-present language problem and little familiarization with American standards. The language problem here is minimal because of the personal efforts of [Redacted]

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C. Technical Inspection

1. An inspection was conducted to evaluate the present system in terms of installation practices, system configuration and technical quality (i.e., workmanship).

2. None of the basic installation practices has been implemented at this Bureau. There is no system ground per se, cable shields are left floating and the cable wiring needs to be dressed up. The Bureau was tasked to dress up the cabling in the near future. A project to upgrade this facility to appropriate standards could be done on a long-term basis. Costs would be minimal but an extensive effort would be required.

3. The patch panel configuration could be improved by using miniature, low-level type panels. Patch panels in a communications facility should provide signal ground patching.

4. As is the case when telephone terminal blocks are used, all connections have to be soldered. This means that when circuit configurations change, wires have to be unsoldered, unwrapped and left hanging loose or replaced. All of these contribute to a non-professional looking installation. This is the case throughout the Far East Bureaus. The patch panels, terminal blocks and connections to outside lines should be done with a 2-block wire wrap configuration which would eliminate the above problems and would provide a permanent cable plant.

5. Signal distribution is accomplished by a MIL-188c configuration. This system required circuit board modifications which has interfered with the present repair and return procedures. This system should be replaced by the conversion system being developed by the Okinawa Bureau.

6. The Bureau's system documentation is very good. However, it needs to be recompiled into the Bureau notebook form. All system documentation has been provided and it is anticipated that the Regional Engineering Office will have to finalize the information for the notebook.

7. This Bureau appears to be above average for unexplained circuit problems. One problem is that periodically, 2 or 3 times a year, the Department of State circuit takes an abnormal amount of transmission errors and excessive delays on high-precedence traffic. These periods usually last 2 to 4 weeks. This circuit maintains a high traffic repeat rate even in good times.

8. The other problem is an intermittent circuit interference with the remote receiver system. It first appeared that the system was susceptible to electrical interference caused by nearby lightning. Ungrounded cable shields were discovered and connected to ground. The system began taking intermittent errors in the early evening. An investigation has shown that the problem is a potential difference being developed between the "earth ground" and the cable shields (up to 10V p-p have been observed) at the microwave room. Several rudimentary attempts were made to overcome this problem and still provide lightning protection. All attempts have been unsuccessful to date. Two observations have been noted that appear to exacerbate the problem. One is that the difference increases during periods of high humidity and the other is that the difference increases during the period that the apartment residents are preparing their evening meal. The AC power distribution is a delta 3 phase - 4 wire system of which two phases are used for apartment housing

power and the third phase is used for the microwave room. It is suspected that phase load imbalance is contributing to the ground difference level. When only one of the two conditions exist, the microwave system will operate properly but when both conditions exist simultaneously, the system takes errors. C&W representatives are not concerned with this problem because it is accounted for in their installation practices. The Hong Kong power company does not allow privately owned "earth grounds" to be connected to their ground system. The microwave system is presently operating with isolation transformers on the signal lines.

#### IV. OTHER SUBJECTS

##### A. New Technical Position

An additional technician position had been authorized and the Bureau had advertised the vacancy and set up interviews with the applicants. Several days were utilized to write a new position description for the Chief Technician position, conducting interviews and rating the candidates for the Bureau Chief's review.

##### B. Bureau Relocation

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##### C. Canton TV Coverage

The Bureau contracts with C&W for recording and delivery of Canton TV coverage requirements. This practice is very expensive and the Bureau requests that alternate means of coverage be developed.

##### D. Technical Training

This subject has been addressed with Headquarters and will not be presented here.

##### E.

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The Hong Kong government is allowing development in the mountains around Hong Kong and C&W anticipates that their facilities will have to be moved eventually. Discussions with C&W indicate possible time frames varying from 3 to 10 years.


V. CONCLUSION

A. The Bureau is in excellent technical condition. The two ongoing intermittent problems are not inherent to the Bureau support efforts.

B. These facilities should be upgraded to present installation standards to prepare for automated data processing equipment and modern communications facilities. Good installation practices are required for these systems to function properly. A project should be established to upgrade the Bureau's installation to include a ground distribution system, miniature patch panels with tip/ring/sleeve panels with wire wrap terminal blocks and the Okinawa developed MIL-188c signal distribution system. This project should be incorporated in the 1984 Bureau relocation project.

C. The Technical staff is well qualified and capable of supporting the Bureau's requirements. The Chief Technician is very conscientious, hard working and a highly qualified employee. The new hire technician exhibits the potential of becoming a qualified asset to the Bureau.

D. System documentation and records are more than satisfactory. However, this documentation must be recompiled to establish a Bureau notebook. It is anticipated that the Regional Engineering Office will originate the notebook.

E. A project should be established to provide the Bureau with Canton TV coverage in a more cost-efficient manner. Consideration should be given to providing this signal from  via microwave.

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F. If technical training positions are authorized, Hong Kong should be considered as a post for such a position.

G. It appears that the Bureau will have to accept the present microwave cable configuration. If the system goes through the next rainy season without problems, we should leave well enough alone. If the problems persist, an effort will have to be made to improve the power grounding and distribution system at the microwave room.

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cc: C/Ops

